WHAT IS CLAIMED IS:

1. A method for isolating anticoagulant heparin or anticoagulant heparan sulfate, the method comprising:

contacting the affinity matrix with a mixture comprising anticoagulant heparin or heparan sulfate, wherein the affinity matrix comprises a fibroblast growth factor; and

separating the non-bound material from the bound material.

2. The method of claim 1 wherein the fibroblast growth factor preferentially binds to anticoagulant heparin or heparan sulfate compared to non-anticoagulant heparin or heparan sulfate.

3. The method of claim 1 wherein the fibroblast growth factor is FGF7.

4. The method of claim 1 wherein the fibroblast growth factor is a fusion protein.

5. The method of claim 1 wherein the fibroblast growth factor is a glutathione-S-transferase-FGF7 fusion protein.

6. The method of claim 1 wherein the mixture further comprises heparin that is not anticoagulant.

7. The method of claim 1 wherein the mixture comprises crude heparin.

8. The method of claim 1 wherein the mixture comprises low molecular weight heparin.

9. The method of claim 1 wherein the mixture is an anticoagulant drug.

10. The method of claim 1 wherein the affinity matrix comprises a fibroblast growth factor immobilized on a support.

11. The method of claim 1 wherein the affinity matrix comprises a fibroblast growth factor immobilized on agarose.

12. The method of claim 1 wherein the non-bound material is separated from the bound material by eluting the non-absorbed material.

13. The method of claim 1 further comprising recovering the anticoagulant heparin.

14. The method of claim 1 further comprising eluting the anticoagulant heparin.

15. A method for separating anticoagulant heparin or anticoagulant heparan sulfate from non-anticoagulant heparin or non-anticoagulant heparan sulfate, the method comprising:

contacting the affinity matrix with a mixture comprising anticoagulant heparin or anticoagulant heparan sulfate and non-anticoagulant heparin or non-anticoagulant heparan sulfate, wherein the affinity matrix comprises a

fibroblast growth factor that preferentially binds anticoagulant heparin or anticoagulant heparan sulfate compared to non-anticoagulant heparin or non-anticoagulant heparan sulfate;

separating the non-bound material from the bound material by eluting the non-bound material from the affinity matrix;

desorbing and eluting the bound material from the affinity matrix.

16. An affinity matrix for isolating anticoagulant heparin or anticoagulant heparan sulfate, the matrix comprising a fibroblast growth factor immobilized on a support, wherein the immobilized fibroblast growth factor retains the heparin-binding specificity of the non-immobilized fibroblast growth factor.

17. The matrix of claim 16 wherein the fibroblast growth factor preferentially binds anticoagulant heparin or anticoagulant heparan sulfate compared to non-anticoagulant heparin or non-anticoagulant heparan sulfate.

18. The matrix of claim 16 wherein the fibroblast growth factor is FGF7.

19. The matrix of claim 16 wherein the fibroblast growth factor is a fusion protein.

20. The matrix of claim 16 wherein the fibroblast growth factor is a glutathione-S-transferase-FGF7 fusion protein.

21. The matrix of claim 16 wherein the support is agarose.

22. A method of preparing an affinity matrix for isolating anticoagulant heparin or anticoagulant heparan sulfate comprising providing a fibroblast growth factor that preferentially binds anticoagulant heparin or anticoagulant heparan sulfate compared to non-anticoagulant heparin or non-anticoagulant heparan sulfate and immobilizing the fibroblast growth factor onto a support.

23. The method of claim 22 wherein the fibroblast growth factor is FGF7.

24. The method of claim 22 wherein the fibroblast growth factor is a fusion protein.

25. The method of claim 22 wherein the fibroblast growth factor is a glutathione-S-transferase-FGF7 fusion protein.

26. The method of claim 22 wherein the support is agarose.

27. A method of preparing FGF7 protein in bacteria, the method comprising:

transforming bacteria with a recombinant nucleic acid vector encoding a FGF7 protein; and

culturing the bacteria in a media containing salt, whereby the bacteria produces FGF7 protein.

28. The method of claim 27 wherein the nucleic acid vector is a DNA vector.

29. The method of claim 27 wherein the bacteria is *Escherichia coli*.

30. The method of claim 27 wherein the salt is $MgCl_2$ or $CaCl_2$.

31. The method of claim 27 wherein the concentration of salt in the media is about 5 to about 150 mM.

32. The method of claim 27 wherein the concentration of salt in the media is about 10 to about 100 mM.

33. The method of claim 27 wherein the FGF7 is a fusion protein.

34. The method of claim 27 wherein the nucleic acid vector comprises operatively linked in the 5' to 3' direction:

a promoter;

a nucleic acid sequence encoding a glutathione-S-transferase-FGF7 fusion protein; and

a 3' non-translated region.

35. The method of claim 27 wherein the FGF7 protein has the amino acid sequence of SEQ ID NO:4.

36. The method of claim 27 wherein the recombinant nucleic acid vector comprises the nucleotide sequence of SEQ ID NO:3.

37. A method of neutralizing anticoagulation catalyzed by heparin, a heparin mimic, or a heparin derivative, the method comprising contacting the heparin, heparin mimic, or heparin derivative with a fibroblast growth factor.

38. The method of claim 37 wherein the anticoagulation occurs in an animal.

39. The method of claim 37 wherein the anticoagulation occurs in a mammal.

40. The method of claim 37 wherein the fibroblast growth factor is signal inactive.

41. The method of claim 37 wherein the fibroblast growth factor is fused with another amino acid sequence and wherein the fibroblast growth factor is signal inactive.

42. The method of claim 37 wherein the fibroblast growth factor is a glutathione-S-transferase-FGF7 fusion protein.

43. The method of claim 38 wherein the fibroblast growth factor is administered to the animal.

44. The method of claim 38 wherein blood containing the heparin, a heparin mimic, or a heparin derivative is removed from the animal, contacted with the fibroblast growth factor, and returned to the animal.

45. The method of claim 38 wherein the animal is a human.

46. A method for neutralizing the biological activity of heparin comprising contacting heparin with a fibroblast growth factor.

47. The method of to claim 46 wherein the heparin is contained in an animal.

48. The method of claim 47 wherein the biological activity is neutralized by providing the animal with an effective amount of fibroblast growth factor.